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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,772	08/20/2001	Makoto Kouno	018889-0196	6952

7590

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EXAMINER

EDMONDSON, LYNNE RENEE

ART UNIT

PAPER NUMBER

1725

DATE MAILED: 06/26/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/931,772

Applicant(s)

KOUNO ET AL.

Examiner

Lynne R. Edmondson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-18 is/are allowed.
- 6) ☒ Claim(s) 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Sugawara et al. (USPN 5560425).

Sugawara teaches a method of manufacturing a heat exchanger comprising the steps of applying a flux coating to peaks of corrugated fins (11a) and edges of the tube insertion holes (col 6 lines 33-50), stacking the fins and a plurality of flat tubes, inserting the tubes into the insertion holes of the header (col 6 line 58 – col 7 line 12) and heating the assembly thereby brazing (soldering) the workpiece (col 10 lines 41-65). It is noted that a method of selectively applying a coating would be capable of applying the coating exclusively to fin peaks. See also Sugawara claims 4-9 and 13-17.

2. Claims 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Takai et al. (USPN 5295302).

Takai teaches a method of manufacturing a heat exchanger comprising the steps of applying a flux coating to peaks of corrugated fins and edges of the tube insertion holes, stacking the fins and a plurality of flat tubes, inserting the tubes into the insertion

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holes of the header and heating the assembly thereby brazing the workpiece (col 6 line 64 –col 7 line 61). The coating is applied at the outer contact surfaces (col 7 lines 3-9). It is noted that a method of selectively applying a braze material coating would be capable of applying the coating exclusively to fin peaks. See also Takai claims 1-5.

Response to Arguments

3. Regarding applicant's argument that Sugawara does not teach application of the coating exclusively to the top peaks of the corrugated fins, the reference teaches application of the coating to the portion at 11a in figure 4 which represents the top peak of the corrugated fin and teaches that the coating may flow down to the lower portions (11b) but is initially applied exclusively to the top peak (col 6 lines 34-50). Therefore the 102 rejection of claims 19-21 as anticipated by Sugawara stands.

4. Regarding applicant's argument that Takai does not teach application of the coating exclusively to the top peaks of the corrugated fins, the reference teaches application of the coating to the outermost contact surfaces (col 7 lines 3-9) particularly applied exclusively to the inner (6a) and outer (6b) portions of the top peaks of the fins (6, col 6 lines 43-59 and figure 3). Therefore the 102 rejection of claims 19-21 as anticipated by Takai stands.

Allowable Subject Matter

5. Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Takai and Sugawara teach the invention essentially as claimed but do not use coating belts for coating application.

6. Claims 5-18 are allowed.

The following is an examiner's statement of reasons for allowance: Rodgers (USPN 5372493) and DiRico (USPN 5466291) teach the invention essentially as claimed but do not teach rollers arranged in configuration so as to enable transfer of the coating from the roller to the belt. Neither is there disclosure of using such a device to form an aluminum heat exchanger. See Sprengling (USPN 4496415).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tillotson (USPN 4632850, rollers, dams), Wallace (USPN 4279943, elastic coating belts), Ishida et al. (USPN 5107575, heat exchanger method), Popoff (USPN 4359279), Williams et al. (USPN 5651412, multiple dams), Fujiyoshi (JPN 3-275272), Fujiyoshi (JPN 4-351267), Velie et al. (WO 95/08403), Kawano et al. (USPN 6325276 B1), DiRico (USPN 5466291) and Bogdany (USPN 5114773).

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne R. Edmondson whose telephone number is 703-

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306-5699. The examiner can normally be reached on M-F from 7-4, with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 703-308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3599 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

LRE
June 18, 2002



M. ALEXANDRA ELVE
PRIMARY EXAMINER